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USSR Report

ENERGY

No. 48

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ELECTRIC POWER

PRODUCT QUALITY IN ELECTRICAL EQUIPMENT INDUSTRY

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Nov 80 p 2

[Article by Deputy Minister of the Electrical Equipment Industry Yu. Nikitin: "The Prestige of an Innovation"]

[Text] At first glance the situation with the quality of the products of the electrical equipment industry is satisfactory: the proportion of items with the State Seal of Quality in the total production volume in the past 10 years has increased nearly twofold and has now reached 47 percent.

It would be possible to say that our indicators are better than in other sectors and to leave it a that. But this is hardly correct: more than half of our items still do not conform to the best domestic and foreign models. But the fact that a low technical level of some items at times is concealed behind the impressive volume of output of products of the highest quality category is most alarming. For example, at Soyuzelektrotyazhmash more than 44 percent of all the products are produced with the Seal of Quality, but if we take specific items, for instance AC electric motors with a rating of more than 100 kW, it turns out that only 13 percent of them have been commended with the honorary pentagon.

This problem has been worrying the specialists of our ministry for a long time. The search for its solution was made in various directions, and we came to the conclusion that the main cause of such a situation is the "gross" approach to planning and the evaluation of product quality. The enterprises and sector are aiming more towards increasing the proportion of products with the Seal of Quality in the total production volume and less towards improving the technical and economic characteristics of specific items.

Therefore the ministry has drawn up a program of improving product quality control, the implementation of which will make it possible to change over to the planning of the production volumes of products of the highest quality category by types of items.

What ways do we see to increase the technical level of our products?

At present any developer has the right to determine himself the technical level of an innovation. Here he intentionally or unintentionally looks not ahead, but back: when developing a new model he is guided not by the results of scientific and technical progress in his own field, but by the current technical and economic potentials of production. It is enough for him to submit the parameters of the innovation to the manufacturing enterprises and consumers for agreement, and the compromise solution becomes a state assignment.

The high quality of an item should be incorporated back at the stage of its development in complete conformity with the trends and prospects of scientific and technical progress. Such forecasts exist, but for the chief scientific research institutes on types of products they are for the present nothing more than food for thought. Hence, neither the developer nor the producer, and especially the consumer know the possibilities and the ultimate purpose of the item. Hence, they cannot incorporate the promising parameters of the product in the leading standards and thoroughly plan its development, production and use. Hence there appears the very large number of minor developments of "today," which, of course, do not ensure a substantial increase of the technical level and quality of items.

It seems that a product can seek the Seal of Quality only on two conditions: it has been developed at a high technical level, while it has been produced in precise conformity with the set parameters. It would all seem simple, but then how is the technical level itself of an item determined?

This is usually done by comparing it with an analog. If the parameters of the new item are greater or the same as those of the standard, the Seal of Quality can be awarded to it. However, although such a direct comparison is necessary, it is nevertheless insufficient. For any analog is the already achieved level of quality. And if we are guided only by it, it is quite possible to incorporate a lag in the development of the item.

Let us take, for example, the problem of direct drive. If it is used, the weight and dimensions of the motor increase. The comparison with an analog according to these criteria yields a minus sign. So, is the old-fashioned reduction gear to be left? It is clear that this is unwise. Therefore we began to use in practice the functional cost analysis of items. That is, we have begun not only to determine the impact of an innovation according to formal appraisals of the charts of the technical level, but also to analyze to what extent one deviation or another from the analog is justified by the gain for the user.

Clearly, this problem is not simple. The USSR State Committee for Science and Technology is giving us much assistance in such an expert appraisal of the most important types of electrical items. Prominent scientists and specialists of various sectors are being enlisted in it.

But does this mean that the optimum criteria of product quality guarantee its conformity to the highest category over the entire period of production? Of course not. It is still necessary to "adjust" the system of certification and control.

The existing system of product certification presumes that the state certification commissions are objective, highly skilled and responsible. In principle this is so. But why, then, do the organs of the State Committee for Standards so often refuse to register awarded Seals of Quality? First of all because far from all these commissions are able to properly use, it must be said, the difficult procedure of certification, and do not always competently appraise the technical and economic characteristics of an item. It happens that, having arrived at the enterprise, and often not at full strength, such a commission only examines the documents, at times formally, and proceeds under the thumb of departmental or regional interests. Not only does the objectivity of certification suffer, but the conditions are created for the revision of the decisions of the commission.

It is clear that the responsibility of state arbitrators of quality for their decisions must be increased. Especially as the recent decree on the further enhancement of the role of the certification of industrial products in the increase of their technical level and quality creates the necessary conditions for this. The state commissions are exempt from the certification of products for the first and second quality categories, the responsibility of sectorial certification commissions increases accordingly. Hence, they will be able to evaluate more competently and, what is the main thing, completely the property and quality of the item being certified from the point of view not only of the achieve technical level, but also of the forecast of its development, the current and long-term saving of labor and material expenditures during the production and use of this item. And, what is of great importance, the preparation of a item for certification will begin during its planning and designing.

Along with the state certification commissions now, as is known, sectorial certification commissions will also be set up, the task of which is to examine products for the first and second quality categories. In this connection a standard on the procedure of certifying products has been developed in the sector. The status of these commissions and the procedure of preparing and presenting materials for certification are specified in it. A distinctive feature of the sectorial certification system is the strict relationship between the evaluation of the level of the production technology of the product and of its quality. We believe that an item can seek the highest quality category only if the level of the production technology is certified to be not lower than the first quality.

As to the system of quality control of the finished products, here the problem consists in determining the status of the control services. In recent times there have been many proposals on changing the role of the departments of technical control. It was even proposed to remove them from subordination to the administration of enterprises and to give them the functions of external control organs. I am certain that this decision would be a formal act and would not increase the reliability of the filters of quality.

The question, apparently, must be stated in a different way. Who in the end bears the responsibility to the state and the consumer for product quality? The sectorial ministry. Hence, it should also ensure objective and effective control of the quality of items. For this purpose in our sector we are organizing territorial laboratories of product quality control, the adoption and observance of standards. Such laboratories are already in operation in Moscow, Leningrad, Riga, Tashkent and a number of other republic and oblast centers. At the leading enterprises we are setting up departmental commissions for the acceptance of finished products. We have also organized a ramified network of test bases, which are being formed acording to the territorial products list principle, while at the main scientific research institute for types of products we have organized state testing centers.

Such measures, it must be noted, are suggested by practical experience. It is possible to argue about the expediency of any of them in one sector or another. But one thing is clear: the improvement of product quality control cannot be effective either within one local system or at any one level of management. It is not by chance, after all, that in recent years regional sectorial systems of product quality control like the Krasnodarsk, Dnepropetrovsk and Rovno systems have appeared. And none of them is in the least at variance with the sectorial principle of quality control. The efforts of party, soviet, economic and trade union organs in comprehensive product quality control at specific enterprises are united within these systems. And, it seems, the study and generalization of the experience of the development and cooperation of the sectorial and territorial systems should become an important part of the improvement of product quality control.

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ELECTRIC POWER

PREPARATION OF NORTHWEST POWER SYSTEM FOR FALL, WINTER

Vilnius SOVETSKAYA LITVA in Russian 22 Nov 80 p 1

/Article: "Important Tasks of Power Workers"/

> /Text/ The success of the work of industrial enterprises, kolkhozes, sovkhozes, transportation, municipal and other organizations during the fall and winter of 1980-1981 will largely depend on the supply of electric power and thermal energy. How has the united power system of the northwest prepared for the current season? This question was discussed at the zonal conference held in Vilnius, in which responsible workers of the party committees of a number of oblasts of the RSFSR, Leningrad, the Central Committees of the Communist Parties of Belorussia, Lithuania, Latvia and Estonia, executives, secretaries of the party organizations of administrations and enterprises of power engineering and representatives of several industrial enterprises and construction organizations participated.

USSR Deputy Minister of Power and Electrification F. Sapozhnikov delivered the report.

The speaker and those who addressed the conference noted that in recent years significant shifts had occurred in the power system of the country. Large capacities for the generation of electric power were put into operation at the Kurskaya, Leningradskaya, Beloyarskaya and a number of other AES's, large hydraulic turbogenerators units were started up at the Sayano-Shushenskaya, Ust'-Ilimskaya and Nurekskaya GES's. The construction of the most powerful Zaporozhskaya and Uglegorskaya thermal electric power stations was completed. During the 10th Five-Year plan nearly 130,000 km of high-voltage electric power transmission lines were run. This year 1.3 trillion kWh of electric power--4 percent more than in 1979--will be generated in the country.

In spite of these achievements, it was emphasized at the conference, during the final year of the five-year plan a quite tense situation has formed in the power system of the northwest. The good preparation of electric power stations and power supply networks for operation in the winter and the drive for the economical use of reserves of electric power and thermal energy are becoming the priority task of all national economic sectors, every industry enterprise, agricultural organization and every collective. It is important henceforth to reduce the consumption of power in technological processes and to utilize skillfully the internal reserves for saving electric power and heat.

During the preparation for the fall-winter season much was also done in the power system of the republic. Many boilers and six turbines of electric power stations were overhauled. Nearly 10,000 km of electric power transmission lines were renovated. This will make it possible to supply electric power more reliably, with fewer losses. At the same time it was noted that there are many shortcomings in the operation of the Mazheyskaya TETs. Here the second heat furnace and the second turbine have not yet been put into operation, the staff has not been completely brought up to full strength. In order to ensure the operation of such an important facility at the Mazheykyay Petroleum Refinery it is necessary put the second power block into operation in the near future.

Consumers should use electric power and thermal energy considerably more efficiently. Organizational and technical plans on saving reserves of electric power and thermal energy have been drafted at all the industrial enterprises of the republic. During their implementation in nine months of this year more than 100 million kWh of electric power and 300,000 gigacalories of thermal energy were saved. Power is being saved well at the Vilnius Plant of Plastic Items, the Kaunas Artificial Fiber Plant and the Klaypeda Trinichyay Production Association. Special commissions which monitor the consumption of electric power and thermal energy in each section operate at these enterprises. However, too little attention is being devoted to this important work at the Ionava Azot Production Association, the Kapsukas Canned Milk Combine, the Palemonskiy Ceramics Plant and a number of other enterprises and organizations. Up to now they have been consuming considerably too much electric power and thermal energy.

The republic People's Control Committee is constantly interested in the consumption of eletric power and thermal energy in the national economy. Special staffs, which have been created in the city committees and rayon committees of the party and in the executive committees of the soviets of people's deputies, are also concerned about this. They are mobilizing the collectives for the efficient use of fuel and energy resources and are making available the know-how of leading enterprises.

The conference participants emphasized that the workers of the northwest power system of the USSR will do everything so that the national economy would be well supplied with electric power and will greet the 26th CPSU Congress with significant labor achievements.

V. Frolyshev, chief of a sector of the Machine Building Department of the CPSU Central Committee, and Secretary of the Central Committee of the Communist Party of Lithuania A. Brazauskas spoke at the conference.

Chairman of the Lithuanian SSR Council of Ministers I. Manyushis, Deputy Chairman of the Republic Council of Ministers Yu. Rusenko, Chief of the Industry Department of the Central Committee of the Communist Party of Lithuania L. Maksimovas and executives of a number of republic ministries and departments attended the conference.

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ELECTRIC POWER

ESTONIAN ELECTRIC POWER CONSERVATION

Tallinn SOVETSKAYA ESTONIYA in Russian 25 Nov 80 p 2

/Article by E. Aman, chief of the Estonian SSR Main Administration of Power and Electrification: "Power Resources: Reserves of Economy"/

> /Text/ Electric power is distinguished from all other types of products by the fact that it is impossible to store it. Generation and consumption here should constantly be in equilibrium. During the hours of peak load of the power system its consumption can increase to the point limited by the capacities of the electric power stations. That is why the observance of the strictest discipline of power consumption is required

Special protection—so-called frequency discharging--has been installed to prevent the overloading of the power system. If the modal measures are not able to prevent a sharp decrease of the frequency, this protection triggers and cuts off some consumers of the republic.

Such a situation, of course, cannot be allowed, and the controller of the power system should take prompt steps to reduce the load by imposing a compulsory limitation or the cutting off of some consumers.

Unfortunately, this year the Estonian Power System has not been able to avoid forced outages. In 74 instances it was necessary to limit consumers, while it was necessary to cut off power 28 times. At the same time the power system has tried to do everything possible so that the population, industry and agriculture would not at the same time suffer and the cutoffs of these groups of consumers would be made only in extreme emergency situations.

What caused such a large number of limitations and cutoffs of consumers? The facts show that the consumers themselves are largely to blame. More precisely, the violators of the discipline of consumption and the schedule.

During the first half of the year a higher fee for exceeding the plan of consumption of electric power in the amount of 21,300 rubles was exacted from enterprises. During the first quarter the Tallinn Perfume and Fats Combine and the Tallinn Mechanized Hydraulic Engineering Column consumed too much. During the second quarter the Tallinn Experimental Movie Machinery Plant, the Tallinn Asbestos Cement Plant and the Keyla Grain Products Combine consumed too much. Let us add that during the first half of the year 11,876 rubles were exacted from 11 enterprises for exceeding the limits of capacity. They are the Khiymaaskiy Timber Management, the Tartu Shop of the Vazar Production Association and so on.

It should be noted that the executives of some republic ministries and departments are not monitoring strictly enough the fulfillment of the plans of electric power consumption at their subordinate enterprises. And therefore it often happens that there is a saving for the sector as a whole, but some enterprises consume too much electric power and pay for it at a higher rate. For example, the Ministry of Housing and Municipal Services had a large saving in January, February and June. However, during these months subordinate enterprises--the Rakvere Combine of Municipal Enterprises, the Tallinn Mechanized Hydraulic Engineering Column, the Repair and Construction Administration of the Narva Industrial Base, Repair and Construction Administration No 5 and others--consumed too much.

Is this a special case? No. Let us refer to the Estonian SSR Ministry of Procurement. The Tamsalu, Keyla and Valga grain products combines of this system are on the list of fine payers, while the ministry as a whole is among the thrifty. It is clear that such an overall saving yields little, if the ministries themselves create an acute shortage of capacity at individual points of the power system, by permitting the exceeding of the limit at the enterprises subordinate to them.

To save power does not at all mean that it is necessary to turn off a machine tool more often. On the contrary: to save means to provide the maximum amount of output, but with the minimum consumption of electric power and thermal energy per unit of output. The rational use of all material resources, including power resources, begins with strict accounting and monitoring.

At the majority of enterprises of the republic the organization of the accounting of electric power does not evoke reproaches. Automated data and measuring systems are operating successfully, for example, at the Kokhtla-Yarve Slantsekhim Production Association imeni V. I. Lenin and the Oktyabr'skiy open pit. Modern instruments have been installed at such enterprises as the Vol'ta Plant, the Tallinn Baltiyskaya manufaktura Combine and the Norma Production Association.

But there are also other, unfortunate addresses. For example, the Maardu Chemical Plant. There are several feed lines and a large number of subscribers here. But, in spite of the repeated orders of Energosbyt, the management of the plant has not done anything to organize a modern system of accounting. The picture is the same at the Estonbumprom Association, the Il'marine Plant and the RET Association. But the appropriate instruments are available at these enterprises, it is only a matter of installing them.

The rates of consumption of power are a mirror of the operation of an enterprise. However, in a number of instances obsolete, unjustifiedly reduced rates are being used. First of all precisely for this reason the Estonian Republic Vtorchermet Production Association was able during the second quarter to save 22.5 percent of the electric power, while the Khaapsalu Repair and Construction Administration saved even 32 percent! As we see, understated rates of consumption do not mobilize the collective to use electric power efficiently. Moreover, its direct waste is encouraged.

There are enterprises at which the specific rates of consumption from year to year are not decreased, but, on the contrary, are increased. For example, at the Estonbumprom Production Association in 1975 the consumption per ruble of output was 3.1 kWh, while in 1979 it was already 3.6 kWh.

As the analysis shows, it is not always only the enterprises which are to blame for the allowed excessive consumption. The Payde Dairy Products Combine has shown large amounts of overconsumption in the reports three quarters in a row: during the first quarter alone the actual consumption of electric power exceeded the planned consumption by 2.2-fold. And what about the Estonian SSR Ministry of the Meat and Dairy Industry? Although a whole milk substitutes plant, powerful treatment facilities and other new objects have been put into operation recently at the combine, the ministry for unknown reasons categorically refuses to approve for the enterprise specific rates, which would conform to the new, actual conditions of production.

The nonfulfillment of contractual obligations should also be considered a display of the lack of discipline of consumers. In particular, in the contract on the use of thermal energy, which is concluded between the power system and the consumer, there is a clause, according to which the latter is obliged to return the condensate. But, as a rule, the enterprises are not fulfilling this clause. Yet the return of the condensate provides a large saving of fuel and power. The return of the condensate has been organized especially unsatisfactorily at the Talleks Association and the Pioner and Il'marine plants.

Speaking at the October (1980) CPSU Central Committee Plenum, Comrade L. I. Brezhnev said that the extensive saving of fuel and power should be incorporated in our plans. A saving, which the determined struggle against mismanagement and waste yields, just as a saving connected with a purposeful technical policy and a policy of capital investments. The universal utilization of reserves and the elimination of the shortcomings, which were discussed today, it seems, can have an effective influence on the solution of the tasks advanced by the party.

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LENINGRADSKAYA AES ACHIEVEMENTS, PLANS

Leningrad LENINGRADSKAYA PRAVDA in Russian 17 Dec 80 p 2

/Article by Lenin Prize winner N. Lukonin, director of the Leningradskaya AES imeni V. I. Lenin: "The Special Work Effort of the Atom"/

/Text/ "To develop nuclear power engineering of the country at an anticipatory rate.... To ensure an increase of the generation of electric power in the European part of the USSR mainly at nuclear and hydroelectric power stations...." It is quite understandable that we, the workers of the Leningradskaya AES imeni V. I. Lenin, directed special attention to these lines from the plan of the CPSU Central Committee for the 26th party congress, "The Main Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990."

With all the purposefulness and persistence characteristic of it the party is laying before us the policy of further increasing the peaceful nuclear potential of the country. And in this there is seen not only economic insight, which makes it possible to choose the most correct, most promising means for increasing the "electric strength" of the state, but also political wisdom: the most formidable energy should work for building.

When considering the tasks being outlined, each of us not only looks at the future, but also analyzes the gains made and the gained experience and, of course, seeks reserves. It is especially important for our collective to do this, since during the current five-year plan—the second in its short history--the final makeup of the station was formed. In the decisions of the 25th party congress it was noted: "To increase the capacity of the Leningradskaya AES to 4 million kW...." The builders, installers and operators—all the creators of the leader of Soviet nuclear power engineering--with the utmost dedication are doing everything possible in order to report the accomplishment of this task to the 26th CPSU Congress. Their labor heroism was rated highly by General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev in the message of greeting sent on the occasion of the start up of the third power block of the Leningradskaya AES in December of last year.

The station has generated more than 65 billion kWh of electric power during the 10th Five-Year Plan. To appreciate more clearly the importance of this contribution it is worth recalling: one "nuclear" billion saves at least 320,000 tons of high energy Donbass coal, or 640,000 tons of Moscow coal, or 240,000 tons of fuel oil.

Last year, when only two power blocks of the station were in operation, the utilization ratio of its installed capacity came to 74.4 percent. This indicator attests that in the rate of assimilation of such giants and the generation of electric power since start-up we stayed at the level of the best AES's in the world. The results of this year attest: this level will be exceeded. Nearly 6 billion kWh have already been generated in 12 months at the third power block, while the first two blocks approached this level only after two years of operation.

According to the annual plan the station should have provided the country with 17.2 billion kWh of electric power, in the socialist obligations we planned 18 billion, but, to all appearances, this figure will also be exceeded--by approximately 700,000 kWh.

Figures, figures, figures. But without them is it really possible to get an idea of the great return of the efforts of the collective?

What measures governed the great efficiency? It is necessary to dwell on this question in more detail, since the know-how of the collective can be used successfully at all the nuclear power giants being built. But this is especially important as in the plan of the CPSU Central Committee the task is set "to direct particular attention to shortening the period of assimilation of the rated capacities of enterprises and facilities being newly put into operation."

The purposeful work on increasing the skills of service personnel played a decisive role in the accelerated increase of the contribution of the station to the Unified Power System. The following fact attests to the achievements in this direction: in the past two years alone we have released about 150 people from the first section. It is clear that without the improvement of the occupational skills and the increase of the creative potentials of each worker—and this pertains mainly to young specialists--it would have been impossible to achieve such a result.

The reserve staff helped us to form in advance the collective which had to assimilate the second section of the station. With the aid of experienced specialists all the operating personnel for the third power block were trained in advance at the operating equipment. After the start-up no one had to adapt themselves, become accustomed to the new equipment--everyone already had experience in working with it. This could not but affect the rate of assimilation. It will be exactly the same at the fourth power block—even now, in essence, all the necessary personnel have been trained.

The great professionalism of the collective also suggested such a route to the accelerated assimilation of capacities as the preliminary inspection of the equipment. It was made jointly with the construction and installation workers, without having begun the installation of the equipment. A large gain in time was achieved here. The preliminary check made it possible to identify the bugs, the elimination of which in the process of start-up and adjustment could have led to a delay in the testing of other equipment and could have endangered the entire start-up schedule. I will emphasize that this work was performed in a building specially adapted for this, in a much more convenient situation than at the project itself. This, too, considerably expedited the matter.

At present the collective of the Leningradskaya AES is going through doubly disturbing days: the preparation for the 26th CPSU Congress coincided with the preparation for the start-up of the fourth and final block. In our socialist obligations it is clearly noted: to ensure the power start-up by 23 February. The record speed of the work at the project is instilling confidence in the accomplishment of this task. At the third power block the start-up and adjustment took 180 days, here the schedule is designed for only 82 days. However, it is being fulfilled in advance.

The impatiently awaited start-up will mean the completion of the construction of the Leningradskaya AES. During the next five-year plan we plan /to generate twice as much electric power as during the current five-year plan--125-130 billion kWh/ /in boldface/. The growth rate is planned as follows: in 1982 we intend to bring the fourth power block up to the rated capacity, while in 1983 and 1984 we will also increase the generation of electric power. All the subdivisions /have been given assignments on decreasing the number of service personnel by 5 percent/ /in boldface/. The collectives are now preparing to defend their proposals. We are appraising together not only the correctness of the means chosen by them, but also the availability of additional reserves in each specific case.

Well, then, by what means will the increase of the generation of power nevertheless be achieved? The point is that in recent years our service jointly with the builders of the equipment installed at the station have been seeking opportunities to increase the repair-free service life of the equipment. This work is becoming more and more urgent in connection with the task being advanced in the draft of the Main Directions "to develop... and use advanced systems of the organization of the repair of machinery and equipment, which ensure an increase of their operating time between repairs." We have concluded agreements on creative cooperative with more than 20 organizations and in the immediate future intend to obtain significant results.

For example, the joint work with the Khar'kov turbine builders in 1981-1983 will make it possible to change over our turbines from a two-year to a four-year cycle between repairs. With the conventional procedure of the eight turbines of the station each year four would have to be shut down for complete disassembly and thorough checking. Here a 65-day "treatment" will be required for only two turbines during the year. We also plan to achieve a similar reduction of losses on the equipment of the reactor block.

It is impossible not to note that this involves great difficulties. It is necessary to replace the units for the purpose of increasing the reliability of the entire set of equipment and to try out the best modes under operating conditions. /But this could have been avoided, if the enterprises of power machine building and the electrical equipment industry back during the development of the equipment for the AES had worried about its long operating life/ /in boldface/. Unfortunately, at every step you run into machines and units, which could very possibly have served for five to seven years each without any repair, but due to merest trifles in their design require repair every two to three years. /It seems that it is expedient in the Main Directions in the sections concerning the development of these sectors to stipulate especially the following task: "To increase 1.5- to 2-fold the operating life of the equipment being produced for AES's." The leading nuclear electric power stations could then operate with a much greater efficiency/ /in boldface/.

Ideas about future stations are constantly occurring to us, the workers of the Leningradskaya AES--for we have already gained much experience and we have something to pass on to those who are following us. /Our AES arose over a period of two five-year plans. But, to be sure, such giants can be built more rapidly--in 4-4.5 years. But for this it is better to use not custom designs of stations, which lead to success by trial and error, but standard designs, which are the most economical and create favorable conditions for the extensive utilization of the know-how of predecessors. So far only power block are being developed as standard blocks--this is not enough/ /in boldface/. And, obviously, in the program for the future it is worth providing for the redirection of attention toward more industrial rates of the construction of nuclear electric power stations.

7807
CSO: 1822

ELECTRIC POWER

ELECTRIC TRANSMISSION LINE CONSTRUCTION

Tashkent PRAVDA VOSTOKA in Russian 21 Sep 80 p 3

[Article by S. Sverdlov: "A Power Bridge Across the Barkhany"]

[Excerpt] The broad-shouldered supports of the 500-kilovolt electric transmission lines are striding across the sands of the Kyzylkum. Installers from the Tashkent trust Sredazelektroset'stroy [Central Asian Electrical Network Construction Trust] have started to hang the wires along the Mary-Karakul' route.

"On the advice of the designers from the Central Asian Department of the All-Union Institute Energoset'proyekt [All-Union State Planning, Surveying and Scientific Research Institute of Power Systems and Electric Power Networks], we decided to strengthen the sandy areas around the foundations," says the chief of a mechanized column Dekhkanbay Ibragimov. "We now place several layers of cane mats in the sand. They hold the loose soil very well."

In spite of the desert's "surprises," the electrical network installers, after assuming duties in honor of the 26th CPSU Congress, have decided to speed up the tempo for laying the line and turn over their 40-kilometer sector a week ahead of the planned deadline, by 22 December, Power Workers' Day. To do this the "guides" have pledged to lash not half a kilometer of steel power filaments per day, as stipulated by the norms, but twice that amount. The crew of Isayev also pledged to increase its output--to install two supports a day, and they achieved this tempo. The workers at the preparation sector, where caps, cross-bars, and other large parts of the supports are assembled from parts sent from the supplier plant, are doing rebuilding work. It is especially difficult to exceed the norms here because the parts must be assembled into large structures with fine accuracy, or else the column will have to be cut again on line, and this threatens to disrupt deadlines. It was decided to make special conductors which repeat, as it were, the outline of the structure. Now the assembly work has been simplified and the task is proceeding more quickly: they are now assembling the large structures for two towers in three, rather than four, days.

The engines of the powerful KrAZ's [Kremenchug Automobile Plant vehicles], which carry the future supports to the line, are roaring in a strained manner. Bulldozer operators cleared the road only yesterday and today it is once again covered with sand dunes. The drivers Vasiliy Konoplev and Petr Khristenko wait until the bulldozer operator's blade cuts just the top of the sand hill, and they rush forward--they have pledged to speed up the transportation of structures. The drivers have not disrupted even one trip which has been arranged in accordance with the new schedule made up with the requirements of the installers in mind.

The Mary-Karakul' mainline is the first section of yet another line--the 11th LEP /electric power transmission line/-500 of the united power system of Cental Asia. When the second Karakul'-Guzar section is introduced into the power giants of Uzbekistan--the Syrdar'inskaya GRES and others--the thermal and electric power stations of Turkmen SSR will be connected.

8524
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COMPLETION OF DNEPROGES-2 CONSTRUCTION

Kiev PRAVDA UKRAINY in Russian 30 Nov 80 p 2

/Article by A. Podgornyy, corresponding member of the Ukrainian SSR Academy of Sciences: "High-Class Hydroturbines"/

/Text/ It is known what great attention our country is paying to building up its energy fuel resources and creating progressive types of power equipment. A large-scale program of measures to protect nature is being carried out at the same time. The 25th CPSU Congress has established a growth in energy chiefly through the construction of atomic and hydraulic stations and also stations operating on cheap coals. The advancing development of energy resources is the foundation of the economic and social progress of socialist society.

The Dneprovskaya GES imeni V. I. Lenin occupies a special place among the hydroelectric power stations built during the years of Soviet power. This year, on the eve of the 110th birthday of the great leader, the station has experienced, as it were, a third birth: the last two units of the second section--Dneproges-2--have been put into operation ahead-of-schedule. Its total power has grown two and a half times.

Comrade L. I. Brezhnev has warmly congratulated all of those who participated in the construction of the GES for this labor victory and the selfless toil of the hydraulic builders has been marked by the highest award of the motherland--the Order of Lenin. The collectives which participated in the construction of this hydroelectric power station, which has become a symbol of our fatherland's industrial might, have suitably carried forward the baton of achievements started in the years of the first five-year plans and picked up after the war when the station was reborn from the ruins.

With the introduction of the equipment at the GES's second section, the production cost of Dneproges electric power is now the lowest on the Dneprovskiy cascade. The construction costs have been repaid in full and the GES is successfully managing its five-year plan goal.

The Khar'kov turbine builders, who have created first-class power equipment exceeding the earlier manufactured machines of similar parameters for all technical and economic indicators, have made a heavy contribution. It is known that the turbine is the heart of the station. The effectiveness of the entire station and its profitability depend on how it operates. One must render the turbine builders their due--they have approached their task creatively. Based on a wide array of investigative, scientific research, and experimental design work, high-power propeller hydroturbines have been installed at the station in place of the rotating-blade kind envisioned by the plan. Many fundamentally new problems had to be solved before this could be realized. The many years of creative labor on the part of the inventors has come to a successful conclusion.

The first large, domestic high-efficiency propeller hydroturbines have been installed and are in operation at Dneproges. Because of their higher rate of speed and better hydrodynamic qualities, productivity was successfully raised to 95 percent, thus increasing the power of the turbines and lowering the labor-intensiveness of manufacturing. All of this increased the planned power of the second section of Dneproges without additional capital investments, saved tons of metal, and improved the protection of the water area.

The economic impact of using six propeller turbines significantly surpassed the originally planned nine million rubles and amounted to more than 21 million. The propeller hydroturbines, in their technical and economic indicators, are on a par with the best world standards and have been awarded the state emblem of quality.

The promotion of the collective labor of the specialists of the Khar'kov Turbine Plant, the Ukrainian department of the All-Union Institute Gidroproyekt/All-Union Planning, Surveying and Scientific Research Institute imeni S. Ya. Zhuk/, and Dneproges to compete for the Ukrainian SSR state prize in the field of science and technology is a sign of the deserved appreciation of their contribution to the development of domestic energy.

8524
CSO: 1822

PRODUCTION OF AES EQUIPMENT

Moscow TRUD in Russian 4 Dec 80 p 2

/Article by V. Krotov, minister of Power Machine Building of the USSR: "The Foundation of Soviet Power Engineering"/

/Text/ The basic trend plan provides for a further increase in the development of electric power at AES's. The production of equipment for these stations must be increased to complete this task. During the years of the 10th five-year plan, the power machine builders have produced five times as many AES reactors as in the 9th plan. The Chernobyl'skaya, Leningradskaya, Kurskaya, and Armyanskaya AES's have become operational. The unit power of AES reactors has grown two and one half times and has now reached a million kilowatts. A special 500-megawatt turbine has been created for AES's. Industrial testing of 25,000 and 16,000 kilowatt gas-pumping units is taking place at Mingazprom/Ministry of the Gas Industry/ compressor stations.

Three times as many resources have been allocated for the development of power machine building in the 10th five-year plan as were provided in the last plan. In a short period of time the first section of the giant plant Atommash/atomic machine building/ has been constructed. This facility has a yearly output of four reactors, each with a capacity of one million kilowatts. The plant has been fitted out with the most modern equipment, its technology has relied upon the flow method for manufacturing special purpose reactors.

The following large enterprises of the industry are being modernized: the production associations Izhorskiy Plant imeni A. A. Zhdanov, Khar'kov Turbine Plant imeni S. M. Kirov, the Leningrad Metal Plant, Krasnyy Kotel'shchik/Red Boiler Maker/; the Podol'sk Machine Building, Belgorod Power Machine Building Plant, Kramatorsk Energomashspetsstal'/Specialized Steel Power Machine Building Plant/, and others. Capital assets of 300 million rubles will be invested and more than 100,000 square meters of industrial space will be introduced at the production association Izhorskiy Plant in the current five-year plan. The industry's plants are being equipped with special purpose processing centers with computers, automatic welding machines, and the latest methods of thermal treatment and quality control including 15 million electron-volt linear accelerators.

Machine building, including power machine building, is, as usual, the base, the durable foundation of today's energy. Our enterprises have more than doubled the 1975 production of equipment surpassing the nuclear quality class. This means that the design and labor collectives are successfully completing the task of protecting the environment and providing the required operational reliability.

However, in spite of the fact that the established capacity of the country's electric power stations is in excess of 250 million kilowatts, the demand of industry and agriculture as well as the requirements of the population for various types of energy are outstripping their production. According to the accounts of specialists, a similar situation will remain in the future. This is why the problems of the future growth of power machine building must be solved on a priority basis. One of the main problems is production quality.

The associations and enterprises of Minenergomash[Ministry of Power Machine Building] are striving to supply the national economy with highly effective and reliable equipment. However, the efforts of some machine builders have not always been sufficient. High-quality rolled metal, a mix of various types of pipe, and other things are required. The enterprises of USSR Minchermet[Ministry of Ferrous Metallurgy] are not fully handling our orders at present. This is why we ourselves had to organize in the industry the production of special large casting steels, as well as electrodes and welding fluxes.

One would think that a solution has been found and that there will no longer be any problems. However, the matter is much more complicated. Various components which also must be of high quality are required to manufacture high-quality castings. Meanwhile the Minenergomash enterprises for a long period of time now have been receiving deliveries of specially pure iron and sand used for mouldings, lump carbon mixtures, x-ray film, and alloying elements but the problem has still not been solved.

The domestic machine tool building industry supplies us with much equipment which is of high quality and well-suited for operation. All of the enterprises of USSR Minstankoprom[Ministry of the Machine Tool and Tool Building Industry] are at times late in handling our orders, are shipping machine tools with serious defects, with imperfect automatic control systems, which significantly lengthen the time needed to assemble them and turn them over for operation. There are still frequent cases where the design organizations either refuse to design certain types of industrial equipment or designate overly long periods of time for their creation. Naturally we have been obliged to find other ways to arm our enterprises with technical equipment but this is a burden to the state.

Our industry's products are being exported to 37 countries of the world including Canada, Japan, Finland, Brazil, Argentina, and all the CEMA countries. With the technical assistance of the Soviet Union, several AES blocks with a unit capacity of 440,000 kilowatts have been constructed and are successfully operating abroad. The AES in the Finnish city of Lovisa, in its technical and economic indicators, has been recognized as one of the best in the world.

Equipment is supplied to all customers, including those within the country, in a progressive manner: principally in reinforced bundles. To shorten the production cycle, increase the level of blocking, and convert to a more perfect technology for manufacturing equipment, it is necessary not only to intensify the modernization of operational enterprises and the construction of new ones which the contractor organizations of USSR Minenrrgo[Ministry of Power and Electrification], USSR Minstroy[Ministry of Construction] and other ministries are carrying out, but also to speed up equipping them with the latest technology. This will permit a widening of our product shipments and will more successfully solve the problems of further developing the power fuel complex of the country.

In conclusion, I want to spend some time on the problem of certifying our industry's products. Even at the technical task and planning stage, the designers lay down stiff requirements for future power equipment. Thus, such engineering solutions which would provide a piece of equipment higher technical indicators than those possessed by the power units in operation today are already envisioned at the very beginning of the creation of a new machine. In essence this is the first step toward the emblem of quality. The next one is to carry the design studies into production.

The enterprises of the industry are ensuring the fulfillment of these high technical requirements. However, the customer insists on an operational inspection of the units which stretches out for a long period of time. The certification of our product is first put aside for an indefinite period and then it loses any meaning at all.

A firm construction base has been created in our industry for the manufacture of high-quality equipment. Skilled scientific and design people and an experienced cadre of technologists and workers have been trained. Good labor traditions have taken shape and socialist competition is being promoted in accordance with the principles of "Worker's Competition." It has particularly helped to bring the Nurekskaya GES to full capacity in a timely fashion, to provide equipment to the Zayskaya GES, and to begin the delivery of hydroturbines to the Sayano-Shushenskaya GES ahead-of-schedule. In short, we can say with confidence today that all of the hydroturbines which the associations and enterprises of Minenergomash are supplying to the power engineering construction projects are of high quality and operate in an equally reliable way under various hydrological conditions, both in our country and abroad.

It is very, very difficult to have the state emblem of quality conferred upon them. Thus, a 650,000 kilowatt turbine--one of the largest in the world--was created by the Leningrad Metal Plant production association for the Sayano-Shushenskaya GES. Three such machines are already in operation and a fourth and fifth will be installed in the final year of the 10th five-year plan. They will install a total of ten such units at this station. Minenergomash required a lengthy period of time to solve, with the customer, the problem of awarding the state emblem of quality to the turbine.

Meanwhile the builders and installers of the Sayano-Shushenskaya GES tell us that it has stood the test for reliability, as the saying goes, under extreme conditions--it has been operating in a difficult hydrological situation, exposed to attack by the raging elements. It is operating reliably and has achieved the technical indicators established for it by the Leningrad turbine builders.

Of course, this is but a single case out of the total problem of certifying our industry's products. The fact is that the "System for Carrying Out the Certfication of Industrial Products for Three Categories of Quality," recently affirmed in June 1980, does not fully consider the specifics of production, installation and adjustment of large-size, single-design machines and equipment of unitary and small-series design in our large manufacturing cycle. Such a situation places the manufacturer and the customer on unequal terms; it permits the customer sometimes to drag out and even refuse the certification of similar equipment.

Minenergo wants to solve this problem constructively--to return the mark-up charged for the state emblem of quality if the product in the future, after lengthy operation, does not display those parameters which were agreed upon with the customer, established in it by the designers, and for which it was awarded the honorary pentagon.

The efforts of the ministry's staff, the creative crews of the associations and enterprises, and all of the labor collectives of the industry are ensuring that, on the basis of progressive technology, we will put new, more perfect equipment into production and will replace what is now being produced for them. In this way one of the major tasks--the careful utilization of power fuel resources--will be solved.

The labor collectives of our industry, like all of the Soviet people, have developed socialist competition in honor of the 26th CPSU Congress. Preparing to welcome it in a fitting manner, they have pledged by the opening of this Soviet communist forum to manufacture the first reactor for the second block of the Yuzhno-Ukrainskaya AES, to produce the second hydroturbine for the Kolymskaya GES a month ahead-of-schedule, to send into the trade network more than 400,000 rubles worth of consumer goods above the established task, and, by introducing inventions and rationalization proposals, to obtain a conventional annual above-the-plan savings of 30 million rubles.

The industry's associations and enterprises are battling to further improve production, increase its effectiveness, and output high-quality products. The Minenergomash laborers are successfully fulfilling the socialist commitments adopted in honor of the 26th CPSU Congress.

8524
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ELECTRIC POWER

WASTE OF FUEL, POWER AT MOSCOW ENTERPRISES

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 31 Oct 80 p 2

/Article by I. Yershov, manager of the Moscow Regional Administration of Power System Management (Moscow): "Planned Wastefulness"/

/Text/ In the burnishing section in the first and second bearing shops of the branch of State Bearing Plant No 2 the machine tools droned smoothly, it would seem that everything is proceeding normally. But an inspector found a number of violations of the operating regulations of the equipment. The burnishing machines were equipped with only two or three drive belts instead of six to eight. That is, the electric drives were only 20-30 percent loaded. The result is the excessive consumption of electric power. In a quarter more than 80,000 kWh are being lost.

This case, unfortunately, is far from an isolated one. More than 500 enterprises of the capital, which have been using electric power and thermal energy inefficiently, have been identified this year. For example, at the electrode plant of the USSR Ministry of Nonferrous Metallurgy some types of electric furnaces due to the poor operation of the cutoff devices and the ill-timed painting of the hulls lose about 10,000 kWh a year. These are the losses which could have been avoided, if they had achieved the proper operation of the equipment at the enterprise. But there are also more serious losses there. Plant rejects take away up to 70,000 kWh a year. The excessive consumption of thermal energy at the Moscow Stankonormal', Znamya truda and Znamya revolyutsii plants is also imposing.

Meanwhile the power situation in the capital and the oblast is forming in such a way that it is unpardonable not only to consume too much, but also not to save power resources. The rapid development of industry and the extensive electrification of production processes in the sphere of service and daily life in recent years have sharply increased the growth rate of power consumption. But the capacity of the electric power stations of the Moscow Regional Administration of Power System Management has been growing, unfortunately, not at such a rapid rate. As a result the reserve of capacities of the power system has been reduced to a minimum. From year to year the power workers have been decreasing the expenditures of power for their own needs and have been struggling to reduce the specific consumption of fuel by a fraction of a gram. For example, since the beginning of the five-year plan it has been decreased by nearly 15 g.

Th. rapid introduction of computers is being undertaken for these purposes. They are helping to standardize with the greatest precision the consumption of fuel, to evaluate objectively the operation of power enterprises and to introduce technically sound planning. The expansion of central heating, in case of which at TETs's thermal energy and electric power are generated with the minimum expenditures, is the general direction.

The generation of power owing to the increasing capital investments in it and other reasons is becoming more expensive. But the main item of the expenditures of our generation is fuel. The magnitude of its consumption in power engineering is so great that even a saving of 1 g of fuel on the generation of a kWh means for the country as a whole more than 1 million tons (in conventional terms). This is an incentive for power workers.

But what incentive do industrial consumers have? The proportion of the expenditures o. electric power and heat in the production cost of their products is very negligible--only 3 percent. Moreover, in spite of the fact that the production cost of power, as was already mentioned, is increasing, the rates for its use have practically remained unchanged for 13 years. Therefore it is not surprising that enterprises are violating the conditions of power consumption.

Personal fines or even an extreme measure--the limitation of power to the violating enterprise or its complete cutoff from the network--do not always have an impact. Thus, this year the Moscow Regional Administration of Power System Management was forced to partially cut off Reinforced Concrete Items Plant No 7, the Frezer Plant and the Ochakov Beer and Nonalcoholic Beverages Plant for failing to observe the conditions of power consumption.

Now the so-called limiting of power consumption has been introduced. That is, the enterprise receives not as much power as it wants, but as much as is necessary for the production plan. But, as was noted at the conference in the CPSU Central Committee on questions of the development of power engineering, serious deficiencies still exist in the standardization of the consumption of fuel and power.

The planning of power consumption should be based on technically sound rates. But these rates are considerably overstated in a number of ministries and departments. They lead to the unjustified increase of the limits of electric power, which are being planned for the sectors. And this not only does not stimulate the enterprise or the sector to be thrifty, but, on the contrary, gives them an opportunity to avoid work on saving power resources, creating the appearance of well-being.

Thus, last year the enterprises of the gas industry ostensibly saved 19.2 percent of the electric power, the enterprises of the USSR Ministry of the Coal Industry saved 19.4 percent. Some enterprises of the USSR Ministry of the Petroleum Refining and Petrochemical Industry set a record of such "thrift"--45 percent.

To be sure, part of the blame here also belongs to the workers of USSR Gosplan, who at times approve such "ample" limits on electric power and thermal energy for the ministries. But the main culprits are the power services of the ministries. They prepare the request to Gosplan, with enviable persistence they stand up for free limits for themselves, justifying them by unsound, at best, statistically established standards.

Clearly, rate setting is a job of more than one day. Time is needed. Here in each sector it is necessary to enlist scientific research institutes in the elaboration of the standards. Special bureaus or groups for standardizing the consumption of electric power should be created at production associations and enterprises. The planning organs of enterprises should also not be left out. For it is obvious to them, as to no one else, to what extent the fulfillment of the production assignments depends on the backing of the plans with power.

7807
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ELECTRIC POWER

BRIEFS

NEW OIL PIPELINE--Batumi, Adzharskaya ASSR, 6 Nov--The Samgori-Batumi oil pipeline was turned over for operation today on the eve of the 63rd anniversary of Great October. Years of intensive labor by hundreds of builders and installers led up to this event. The pipeline, filled with oil, is now in service. The line begins in the Samgorskaya steppe where an oil deposit was discovered in 1975. The total length of this pipeline, which now carries oil to the Batumi Refinery, is 425 kilometers. The builders overcame hundreds of water obstacles, crossed the Suramskiy Pass, the Rionskaya lowland, and the western spurs of the Adzharsko-Imeretinskiy Range. They used various innovations which permitted them to maintain a high work tempo. Three integrated production lines uniting the earth-moving, welding, insulation, and road-building crews reserved the completely prepared pipeline. Colleagues came to help the builders and installers of Georgia--welders from Groznyy, Krasnodar, Rostov-na-Donu, and other cities. The oil workers are continuing their search for new deposits. [Text] [Moscow KRASNAYA ZVEZDA in Russian 7 Nov 80 p 1] 8524

NEW DUMP TRUCKS--Vladivostok--The first 80-ton BelAZ[Belorussian Motor Vehicle Plant]-549 automatic dump trucks have gone out to the line of the Pavlovskiy coal pit. In comparison with previous machines of this brand, the new equipment has permitted a threefold increase in labor productivity of carting out fuel. Each of these Herculean vehicles can carry a million tons of mined materials a year to the concentration factory. The modern large freight carriers have been given to the best drivers--shock workers of communist labor Evgeniy Kushlyanskiy, Pavel Filatov, and Yuriy Maslov. Innovative work methods, and high production machines and equipment are permitting the maritime area miners to successfully fulfill the heavy commitments of the 10th five-year plan. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Nov 80 p 1] 8524

MOBILE POWER STATIONS--Leningrad, 28 OCT--All of the diesel generators produced by the association Zvezda for the regions of Siberia and the Fareast are mobile. It is not necessary to assemble foundations and erect special buildings in order to put each electric power station, with a capacity of several hundred kilowatts, into operation. A trailer or helicopter carries them to the work area, completely ready for operation, in heated block boxes. When necessary, the units can be quickly transferred to a new area. Today the enterprise has begun to produce such mobile "electric factories" for the builders of the Tyumen' gaslines. This has fulfilled the main plank in the pledges of the association's collective in honor of the 26th CPSU Congress. Among the other mobile electric power stations which the Leningrad firm is producing in this five-year plan, per order of the Siberians and Fareasterners, are block-transportable units designed to provide a power supply to a tayga village of 1,500-2,000 inhabitants, and autonomous power sources for gas-pumping stations. [Text] [Moscow PRAVDA in Russian 29 Oct 80 p 3] 8524

NEW OIL WELL--Yerbogachen, Irkutskaya Oblast, 2 Nov--A powerful oil fountain burst forth at the Danilovskiy sector in Katangskiy Rayon. They had been waiting a long time for this hour. For many years now the geologists, geophysicists, and drilling foremen have sought oil here. Dozens of wells were drilled but they succeeded in finding only gas here. Now oil has finally come from a well. The industrial potential of the well is 100 tons per day. [Excerpt] [Moscow PRAVDA in Russian 3 Nov 80 p 2] 8524

UNDERWATER PIPELINE--The laying of an underwater trench at the bottom of the Moscow River not far from the ninth sluice has been completed. Within several days the specialists of the 3rd expeditionary detachment of Podvodrechstroy [Association for Underwater River Construction] will begin installing pipelines here. This is the most complicated sector of the line which stretches from the Filevskaya floodplain to Khorosheva-Mnevnikov. [Text] [Moscow PRAVDA in Russian 19 Nov 80 p 3] 8524

GAS WORKERS' CULTURAL LIFE--Urgench--The subunits of Sredaztransgaz [Central Asian Association for the Transportation and Storage of Gas and Gas Products], which supply blue fuel to the Urals and the center of the country, are standing watch in the sands of the Karakum and in the cities. This is not easy service. However, the gas workers are strongly inclined to devote their free hours to artistic amateur talent activities. Watching such shows has become a tradition in the association. The latest one, which took place not too long ago, attracted more than 90 participants. The ensemble of the Khodzheyliyskiy Line Production Administration of Gas Mains turned out to be the best. [Text] [Tashkent PRAVDA VOSTOKA in Russian 12 Oct 80 p 2] 8524

VALUABLE GAS DEPOSITS--Tyumen', 15 May--Geologists have opened a new blue fuel deposit, called Yevo-Yakhinskiy, in northern Tyumen' Oblast, in the region of the famous gas condensate giant Urengoy. Natural gas has been wrested from a depth of almost three kilometers. Operators will be coming here soon. For the present the main gas storehouse of the country--the Urengoyskoye deposit--is being intensively developed. Each day 125 million cubic meters of this valuable energy raw material are being sent from here to industrial centers. In two years the Urengoy has already yielded more than 50 billion cubic meters of natural gas. [Text] [Moscow PRAVDA in Russian 16 May 80 p 3] 8524

LARGEST POLAR TETS--Noril'sk--The largest TETs in the polar regions has begun operating. It is providing the Nadezhdinskiy Metallurgical Plant with heat and power. This is an unusual TETs. The heat of converters and smelting furnaces, transformed into high-pressure steam, runs two of the station's four turbines. Thus, very expensive heat does not go to waste in the Extreme North. The new TETs goes to full power at the beginning of next year, on the eve of the day when the first metal of the Nadezhdinskiy Plant will be obtained. The surplus heat and steam are heating the settlement where the enterprise's builders live. [Text] [Moscow PRAVDA in Russian 9 Oct 80 p 1] 8524

UNDERGROUND GAS STORAGE--Baku--A two-story underground gas storage tank has been created in Azerbaijan. The advantages of a multi-story method for storing blue fuel are evident. One can significantly increase the volume of gas stored in the bowels of the earth with practically the same amount of service personnel and compressor facilities. It ensures the stability of the supply of this valuable fuel to the consumers. The research of Azerbaijan scientists, who are now working on the creation of the largest underground storage tank in the country, will help to solve the problem of the smooth supply of blue fuel to the republics of the Transcaucasus. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 26 Nov 80 p 1] 8524

INCREASE IN GAS FLOW--Nebit-Dag, Turkmenskaya SSR, 27 Nov--The first section of the Gogran'dag gas condensate deposit complex under construction has been turned over for operation. This has permitted an increase of 500,000 cubic meters in the daily flow of raw material along the Central Asia-Center gas pipeline. [Text] [Moscow PRAVDA in Russian 28 Nov 80 p 3] 8524

GAS FOR REMOTE AREA--Elista, 24 Nov--Inhabitants of one of the most remote rayon centers in the steppe area--Gorodovikovska--are receiving natural fuel. It came there over a gas pipeline from the Verkne-Rodychanskoye deposit. The Kalmytskaya ASSR is paying great attention to the gasification of cities and populated points. [Text] [Moscow PRAVDA in Russian 25 Nov 80 p 6] 8524

AUXILIARY EQUIPMENT PLANT--Energomontazhproyekt [All-Union State Planning, Surveying and Scientific Research Institute for the Installation of Power Stations and Systems] has worked out the technical specifications for the construction in Zaporozh'ye of a plant intended to provide auxiliary equipment to AES's under construction. This will be the second plant--the Kursk Plant was the first--with this function. The capacity of this AES industrial facility amounts to 40,000 tons of products a year. Modern highly-productive equipment, placed on several mechanized flow lines, will be installed here. The plant's products will be supplied for the construction of the Yuzhnoukrainskaya, Chernobyl'skaya, Smolenskaya, and other electric power stations of the south and the European part of our country. [Text] [Leningrad LENINGRADSKAYA PRAVDA in Russian 22 Nov 80 p 2] 8524

FUEL EXPLORATION SUCCESS--Petropavlovsk-Kamchatskiy--A fountain of gas, up to 50 meters high, rushed from a well drilled by the geologists of the Kamchatka oil and gas exploration expedition. According to a preliminary assessment, the well will yield up to one million cubic meters of gas per day at a pressure of 92 atmospheres. The further intensive search for oil and gas, according to the estimates of specialists, could open still another storehouse of natural fuel. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Nov 80 p 1] 8524

NEW MINING EQUIPMENT--Khar'kov--New equipment from the Khar'kov Plant Svet Shakhtera [Miner's Light] will help the miners of the polar region increase coal production. The first powerful transporter, intended for the Vorkutinskaya mine, has been assembled here. Operating in an automatic mode with a combine and hydraulic supports, it is capable of conveying about 4,000 tons of fuel per shift from the mine face. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Dec 80 p 1] 8524

POWERFUL COAL MINING EQUIPMENT--Tula--The MK-75 mechanized coal mining complex is making the work of miners easier. Its first series models have come off the conveyor of the Uzlovskiy association Kran [Crane]. This equipment works layers up to 2.2 meters thick. Thanks to the improved design of the mechanized supports, conditions have been created for miners to work with greater ease and safety in longwall. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 5 Dec 80 p 1] 8524

NEW POWERFUL EXCAVATOR--Kramatorsk, Donetskaya Oblast--A walking excavator, manufactured by the collective of the association Novokramatorskiy Machine Building Plant, is the first of a series of powerful steel coal-mining complexes. The machine has been sent to the miners of the Nazarovskiy coal pit in Siberia. Noted for its high productivity, the excavator is capable of operating, practically year round, under severe climatic conditions. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 14 Dec 80 p 1] 8524

STUDY OF EARTH'S CORE--Soviet scientists and specialists have attained new successes in studying the earth's interior. For the first time in history a rock sample has been obtained from a depth of more than 10,500 meters at the Kol'skaya superdeep well. The most modern achievements of many sectors of science and technology have been applied here. Indeed one may call the drilling rig created by the collective of designers and workers of the famous Uralmash [Ural Heavy Machinery Plant imeni Sergo Ordzhonikidze] a miracle of technology. Smoothly-fused, very durable drilling pipes and many instruments and automatic machines which make the sinking of a well easier have been manufactured especially for the Kol'skaya well. The experiment is of great scientific and practical interest. Thick crystallized rock strata of the earth's core were exposed during the work, valuable physical data were collected, and important conclusions were made on the deep structure of the earth's core and on the processes occurring in it. It is noteworthy that these data are now being already widely used not only in science but also in practical geology, helping the prospectors of the earth's interior to search for new mineral product deposits. [Text] [Baku VYSHKA in Russian 26 Nov 80 p 2] 8524

OIL EQUIPMENT SHIPMENTS ABROAD--Gur'yev--The Gur'yevskiy Machine Building Plant imeni Petrovskiy sent a large batch of spare parts for petroleum extracting equipment to Afghanistan. These are not the first products which the collective has shipped abroad. For many years now the enterprise has been producing equipment and tools for the developing countries of Africa, the Near East, and Asia that are prospecting for and extracting oil. The volume of shipments is increasing from year to year. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Nov 80 p 2] 8524

CSO: 1822

FUELS

UKSSR GEOLOGY MINISTER COMMENTS ON MINERAL EXPLORATION

Kiev PRAVDA UKRAINY in Russian 14 Nov 80 p 2

[RATAU correspondent interview with P. F. Shpak, UkSSR minister of Geology: "Mineral Resources Explorers at the Finish of the Five-Year Plan Period"]

> [Text] Having developed socialist competition widely for a worthy reception for the 26th party congress, the mineral resources explorers of the republic fulfilled ahead of schedule the tasks of the Tenth Five-Year Plan period on increasing the reserves of petroleum, coal, iron manganese and titanium ores, native sulfur and basic technical-economic indicators. The RATAU correspondent asked P. F. Shpak, UkSSR Minister of Geology, to talk about the contribution of the industry's workers to the development of the mineral raw materials base of the industry.

[Answer] Some 35 deposits of petroleum and gas were discovered in this five-year plan period. For comparison, I will note that 24 deposits were discovered in the past five-year plan period. The plan for increasing petroleum with condensate reserves was fulfilled by 108 percent and for gas -- by 100.1 percent. Among the new gas deposits, perhaps, the most important are the Yablunovskoye and Kotelevskoye deposits in the Poltavskaya Oblast.

Geologists explored mine fields with a capacity of 40.5 million tons of coal for a goal of 38 million tons. Sections prepared for industrial assimilation will make it possible to build 24 new mines with an estimated production of tens of millions of tons of coal per year and to modernize four more mines with an increase in capacity of 6.9 million tons. Detailed exploration has begun in the Lozovskiy region of Western Donbass. Five more sections will be transferred for industrial assimilation before the end of the year. They will produce 14 million tons of coal annually for the national economy.

The increase in iron ore reserves already exceeds the goal set by the five-year plan by 230 million tons. Before the end of 1980, the total increase will exceed 4 billion tons. Seven iron ore deposits were transferred to industry which made it possible to increase the supply of raw materials of mines and ore-dressing combines of Krivbass. Conditions have been established to build new large combines in the Kremenchug ore mining region at Poltavshchina and Belozersk -- in Zaporozhskaya Oblast, as well as in Priazov'ye.

Many other minerals are being explored systematically. Thus, the increase in manganese ore reserves was 72 million tons for a five-year plan goal of 65 million tons. The base was prepared for building the first stage of the Tavricheskiy Ore-Dressing Combine. Evaluation was completed of the new titanium ore deposit where it is planned to build an enterprise to produce titanium concentrate while obtaining phosphate byproducts for making mineral fertilizers. The tasks of exploring nonmetalliferrous raw material deposits for metallurgy, native sulfur and potable water were fulfilled ahead of schedule. A basis was created for improving the water supply of ten cities and many settlements and villages.

These high indicators were achieved by the organizations of the UkSSR Ministry of geology due to the fact that many creative, enthusiastic people with initiative work in the industry. Innovators and leaders of socialist competitions are widely supported and their initiative is disseminated widely. Because of that, 365 drilling brigades -- over half of all collectives -- completed their five-year plans ahead of schedule and 38 -- their six-year goals. Great success was achieved by the brigade of M. D. Avramets, drill foreman of the "Poltavneftegazgeologiya" Association, winner of the USSR state bonus, that fulfilled two five-year period plans. Now, over 600 collectives in our republic work under the slogan "To the 26th party congress -- 26 shock working weeks!" Many followers followed the initiative of the brigades of F. Z. Rymarenko and N. L. Tikhanovskiy, winners of the USSR state bonus, from the "Chernigovneftegazgeologiya" Association, who obligated themselves to drill wells with the resources they saved. The savings amounted to 35.3 million rubles used to drill 145,000 meters of deep wells.

At present, the republic's geologists are concentrating their attention on unsolved problems and are putting in action unused reserves. And there are some still. Thus, the volumes of structure preparation for deep drilling are insufficient, as well as the rates of increase in the speed of columnar well sinking. It is necessary to overcome lags in construction installation work.

The geologists of the republic see their main problem in increasing further fuel-power resources as defined by the decrees of the October (1980) Plenum of the CSPU Central Committee and the session of the USSR Supreme Soviet. In 1981, it is planned to prepare three gas and petroleum deposits for industrial development and release 20 wells for operation. Further exploration of coal in the Donetsk, L'vov-Volyn' and Dneprovsk basins will be carried out intensively.

2291
CSO: 1822

MORE FUEL, ENERGY CONSERVATION NEEDED IN MOLDAVIA

Kishinev KOMMUNIST MOLDAVII in Russian No 9, Sep 80 pp 62-66

[Article by V. Chemortan, candidate of technical sciences: "Saving Fuel and Power Resources Is an Important State Task"]

[Text] The planned, steady development of the national economy depends greatly upon the degree to which it is supplied with fuel and power resources. Our country possesses the world's greatest fuel and power complex, all branches of which continue to be developed at a rapid pace. During the past 15 years the generation of electricity and the recovery of oil (including gas condensate) have almost tripled, and gas recovery has risen almost 4-fold. But the national economy's requirements also have been rising steadily. As L. I. Brezhnev remarked in his speech at the November 1979 Plenum of the CPSU Central Committee, the national economy's rising requirements are being met precariously. This necessitates the more rational use and strict saving of resources. "...However rapid the pace at which we develop power engineering," it was stated in the address, "the savings of heat and energy henceforth will be a most important nationwide task....The efforts of each collective and of each worker should be aimed at saving fuel and energy."

It must also be kept in mind that a trend toward increased expensiveness of fuel and power resources has been noted in the modern era. This is caused first, by the fact that the newly discovered deposits are far from industrial centers, because of which the distance of transporting energy resources is increased, leading to high material costs. Second, capital investment for protecting the environment from harmful discharges is increasing substantially. It is natural that, under these circumstances, the significance of raising effectiveness in the use of fuel and energy resources is increasing. According to the specialists' estimates, specific capital investment spent to save 1 ton of fuel is two-thirds to two-fifths the capital investment spent to create new capacity for extracting and consuming it. Later on, as the cost of producing and transporting fuel grows, the effectiveness of savings will rise still more.

Moldavia's power-engineering base consists of imported fuel--coal, petroleum products, gas and firewood. Its own reserves (water power, firewood and agricultural and industrial-production waste) are extremely scarce and make up less than 3 percent of total consumption. Therefore, the task of saving and of raising the utilization effectiveness of fuel and electricity is especially urgent for us.

In 1979 Moldavia's economy consumed 7.4 million tons of standard equivalents of boiler and furnace fuel, more than 13 million kilocalories of heat energy and 8.3 billion kw-hr of electricity. Most enterprises and agencies fulfilled their tasks of reducing the consumption thereof. The Kishinev production association Styaua Roshiye, the Kishinev Combine for Artificial Leather and Industrial Rubber Products imeni Kalinin and a number of other enterprises and organizations achieved good indicators. This is the result of planned organizational and educational work by party organizations in the collectives.

At the Combine imeni Kalinin, for example, plans for organizational and engineering measures to save energy resources have been developed and implemented successfully from year to year. Its collective takes an active part in the socialist competition of production associations and industrial enterprises. An energy-monitoring commission has been established there which, jointly with the people's control group and the "Komsomol searchlight," systematically conducts surprise inspections for discovering and eliminating cases of irrational and wasteful expenditure of fuel and electricity. The results of the inspections are reflected in wall newspapers and urgent flyers, in transmissions of the local radio broadcasting, and in orders of the administration. This important question is discussed at planning board meetings, at meetings of wage workers, engineers and blue- and white-collar workers and at party committee conferences.

At the same time, these questions are not by far being resolved successfully everywhere. A report to a meeting of the republic's party activist group of 9 July of this year that discussed the results of the June 1980 Plenum of the CPSU Central Committee and the tasks of the republic's party organizations noted unsatisfactory work to save raw-material and fuel and power resources. It was pointed out that "last year a number of production collectives overexpended 24,000 tons of fuel and combustibles, more than 10 million kw-hr of electricity and 18,000 kilocalories of heat energy. The nonfulfillment of tasks to reduce the consumption of fuel and electricity and the substantial overconsumption thereof occurred most often of all at enterprises and organizations of the ministries of building-materials industry, light industry, automotive transport, construction, highway operation, and land reclamation and water resources, Moldavpotrebsoyuz [Moldavian Union of Consumer Cooperatives], and the Moldavian SSR Collective-Farm Council."

The irrational and, at times, wasteful and uneconomical use of energy resources is the result of weak organizational and educational work in collectives and lack of due exactingness and monitoring. Inquiry has indicated that plans for organizational measures that enterprises make up annually are often formalistic and are not an effective resource in the hands of the administration and of social organizations. A typical example is the Bendery Biochemicals Plant, where overconsumption last year reached 7.5 percent for fuel and 2.02 percent for electricity.

The plan for organizational and engineering measures at this plant had not been confirmed either by calculations of the economic benefit or by the availability of the required financing and materials. For this reason, it was apparent that the measures contemplated were just on paper. And this is repeated each year. Indicators for savings of electricity are entirely absent in the socialist commitments of the plant's collective. Innovators' work is being performed poorly here, so suggestions on saving energy resources have not been received and the enterprise has not participated in the republic's contest on this question. Civic organizations, people's controllers and "Komsomol searchlighters" do not display the proper initiative in uncovering cases of uneconomical consumption of fuel and electricity. In addition to what has been said, I would like to add that the norms for specific consumption of fuel resources at the biochemicals plant were not developed by scientifically substantiated methods but were adopted to take the statistical reporting of past years into account.

The cases of an uneconomical attitude toward energy-resources consumption that have been cited are characteristic also for the republic's other enterprises, organizations, kolkhozes and sovkhozes. Suffice it to say that surprise inspections conducted in 1979 by the energy-surveillance services jointly with people's control organs found unused reserves for saving more than 7 million kw-hr of electricity and more than 91,000 kilocalories of heat energy.

The more typical instances of overconsumption and irrational use of electricity at enterprises were: the use of electricity for heating premises; burning lights during the day; the underloading of industrial equipment; poor quality of thermal insulation of electrical drying units; the installation of motors of excessive power; a lack of automatic arrangements and regulators for industrial and auxiliary processes; the violation of industrial regimes; and the output of defective products.

As for heat energy, losses and wasteful consumption thereof occur as a result of a lack of automatic arrangements for regulating hot-water supply and ventilating installations; lack of seal and poor insulation of steaming and drying chambers and of steam conduits; the unsatisfactory condition of customers' heating grids and of thermal insulation; lack of or poor operation of condensation removers; and a lack of arrangements and installations for the repeat use of heat. Typical deficiencies in the use of fuel are: unsatisfactory state of its haulage and storage; poorly formulated accounting; lack of automatic arrangements and installations; and violation of operating regimes of production processes.

As we see, the channels for losses are numerous, but they can be discovered where the entire panoply of engineering, operating, organizational and educational measures is used.

With a view to providing for systematic work in this area, the republic's ministries and agencies have been charged with developing for 1981-1985 and with strictly executing industrywide overall programs for savings and for raising the effectiveness of use of fuel and energy resources in the economy. Savings are understood to mean, in this case, a reduction in consumption as a result of engineering, operational, organizational and other measures taken, but the chief reserves for raising utilization effectiveness are the replacement of scarce types of fuel with those that are less scarce, rational choice of energy carriers, and a reduction in transport costs.

The integrated program makes a preliminary evaluation of the capital investment necessary for executing the planned measures; the requirements for the appropriate equipment and supplies are defined; and long-term indicators for specific fuel and energy consumption for the production of various types of output, taking into account the realization of measures for savings thereof, are planned. Comprehensive programs are being developed at the enterprise (or farm), association, ministry (or agency) and republic levels. Plans for specific organizational and technical measures, the realization of which will enable effective fulfillment of the tasks, will be made up annually on the basis of them.

Work is being done at enterprises and agencies in accordance with such plans, but many of the plans are too general in nature. The measures planned have not been made specific as to the place of application, the place and time of implementation, and they cover only auxiliary processes of the enterprises' work and services, not touching, as a rule, upon the main technology of the production processes. The effectiveness of measures to save energy resources is not substantiated by appropriate calculations, and support thereof with financing, equipment and materials is not considered.

As a rule, according to established tradition, only the chief power engineer's service is engaged in developing the indicated plans, which gives the plans a certain one-sidedness, since the power engineers cannot independently cover the whole set of problems of energy utilization. In developing comprehensive five-year programs and annual plans, it is desirable to involve also the operational, design, economic and other services of enterprises and associations. In developing plans for new facilities and for the expansion or reconstruction of existing facilities, it is mandatory that questions of energy supply and energy utilization should be considered in the optimal variants.

Basic trends in saving and in increasing effectiveness of the consumption of fuel and energy resources in the republic's economy are: the introduction of new technologies and types of equipment and installations that will provide for a high technical level of production at minimal fuel and energy expenditure; improvement and automation of industrial processes; the modernization and replacement of existing equipment that is uneconomical or poorly productive; provisioning of optimal load and operating regimes for machines and apparatus and heating, ventilation and illuminating installations; optimal selection of energy carriers and the distribution of energy; elimination of direct losses of fuel and petroleum products during transport, storage and use; reduction of losses during the production and transmission of heat and electricity, as well as the saving of energy-intensive materials (metals, chemical products and others) and the replacement thereof with other materials that are less energy intensive; the use of secondary energy resources and renewable energy sources (the sun, wind and the earth); intensification of energy-use inspection; and improvement of the system of reporting consumption and material incentives for saving energy resources.

All these measures are closely intertwined and in many cases they are interdependent.

The republic's scientific-research and design-development institutions can make a major contribution to the overall savings. In particular, their work plans should call for studies aimed at the search for and introduction of new industrial processes that are less energy intensive and the creation of machinery and installations that will promote effective energy-resources utilization, including energy of the wind, sun and earth. The creative ties of scientists, developers and designers with the collectives of enterprises, farms, and associations should be strengthened, and integrated brigades for developing and introducing the more important measures should be established.

Those managers and social organizations that create at their enterprises and farms standing operating commissions to find and to save energy resources are acting correctly. The "Komsomol searchlight" and people's controllers who regularly conduct surprise inspections to discover cases of unthriftiness and wastefulness, as well as the wall newspaper and special booths and placards that spread advanced experience, are of great help in this matter. Well-organized lectures, seminars and meetings on urgent questions of the rational use of resources are of tangible benefit. Socialist competition for savings and thriftiness, in which not only individual workers, brigades and subunits participate, but also the enterprises as a whole of the given ministry or branch of industry, is of exceptional importance.

Indispensable prerequisites to the successful execution of any plan and of socialist commitments are active monitoring, the regular summing up of the results of execution of the measures planned, publicity of the results obtained, and material and moral incentives for the workers who have distinguished themselves.

The party and the government are showing untiring concern for the rational use of electricity, gas and liquid and solid fuels, considering this problem to be one of the most important with respect to developing the country's economy. Testimony to this is the CPSU Central Committee decree, "On the Work of the Pavlodarskaya Oblast Party Organization on Fulfilling the Decrees of the CPSU Central Committee about Saving Fuel and Energy Resources at Enterprises and Construction Projects." It emphasizes that realization of the party's policy on saving energy at all elements of industrial and agricultural production, construction, transport and municipal services is a most important politico-economic task for all party, soviet, economic, trade-union and Komsomol organizations. "It is necessary," the decree states, "to organize among workers a genuine large-scale movement for thriftiness and to raise the importance of these questions when evaluating economic activity, summing up competition results, and giving moral and material incentives to working collectives and to blue- and white-collar workers.

The drive to save fuel and energy resources is not a short-term campaign. It is daily, painstaking and persistent work that requires the efforts of all--from the ordinary worker of an enterprise to the manager. Successful execution of comprehensive measures in this area will promote improvement of economic indicators for the economy and more complete satisfaction of our society's rising material requirements.

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11409
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FUELS

NADYM GAS PRODUCTION DESCRIBED

Moscow EKONOMICHESKAYA GAZETA in Russian No 45, Nov 80 p 3

[Article by V. Dubrovin (Tyumenskaya Oblast): Nadym Gas Flows Continuously"]

[Text] On one day in September, meters at the Medvezh'ye deposit recorded 294 billion cubic meters of natural gas -- this was the amount produced since the start of the five-year plan period. Then, the gas obtained above the plan was recorded.

Many difficulties had to be overcome together with the Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises], workers and specialists of the "Nadymgazprom" Association. The deposit was assimilated on a principally new basis, applicable to northern conditions. For the first time cluster drilling of wells of an enlarged diameter in permafrost was implemented here. Here installations of large unit capacity for reprocessing gas passed the tests. Automatic control of technological processes became an important stage. In the process, Nadym gas workers became among the first to achieve the quality of gas preparation specified by the industrial standard.

"It is interesting to compare the following data," -- stated V. Strizhov, director of the association. "The last, the ninth installation for comprehensive gas processing has almost twice the capacity of the first, although they were the same according to the design parameters. The increase was achieved by improvements in production methods, thus making it unnecessary to build the tenth installation.

The Medvezh'ye deposit is not called the proving ground of the industry by accident. "Breaking-in" powerful equipment here opens the way for assimilating other deposits in Tyumenskaya Oblast at a lower cost. In particular, plants are now being built at the Urengoy deposit for cleaning and drying the "blue fuel" with a capacity of 15 billion cubic meters per year.

Now, in the course of precongress competition, the utilization coefficient was increased to 0.99. All gas preparation installations operate continuously and feed about 200 million cubic meters of the "unseen" fuel to transportation systems daily. This is 1½ to 2 million cubic meters more than called for in the plan.

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FUELS

AZERBAIJAN URGED TO MAINTAIN CURRENT OIL, GAS OUTPUT LEVELS

Baku VYSHKA in Russian 9 Jan 81 p 1

[Lead editorial: "Stabilize Crude-Oil Recovery"]

[Text] Azerbaijan's oilfield workers, like all our republic's workers, are promoting still more widely these days socialist competition for a worthy greeting to the 26th CPSU Congress. Discussing intensely and with interest the CPSU Central Committee draft for the congress, they are analyzing thoroughly the results of their own activity during the preceding five-year period and are finding and bringing into action new reserves for improving operations.

The start made has not been bad. The collectives of many NGDU's [oil and gas recovery administrations] and oilfields have already registered on their account the first tens of tons of crude oil and millions of cubic meters of gas recovered above the goal. It is certain that Neftyannyye Kamni workers will move from stabilization to an increase in liquid-fuel recovery. Shirvan's oilfield workers are consolidating the successes achieved during the Tenth Five-Year Plan. Overcoming many difficulties in developing oil and gas-condensate deposits of the Baku Archipelago, the NGDU imeni N. Narimanov collective is proceeding to new goals--it is now pumping into the tanks each day tens of tons of fuel above the plan.

Each success of the oilfield workers gladdens us. But in noting this today, we cannot at the same time refrain from stating that the state of affairs in the industry has been unsatisfactory in recent years. The Azerbaijan Communist Party Central Committee has repeatedly pointed out this circumstance to the management of Azneft' [State Azerbaijan Oil Industry Association] and Kaspmorneftegazprom [Caspian Sea Offshore Oil and Gas Industry Association]. The associations' work was subjected to serious criticism also at the recently concluded 44th Baku city party conference.

It is the duty of party and trade-union organizations of the petroleum regions and of all economic managers to derive lessons from the criticism and to consolidate the improvements in the industry's work that have been planned.

The CPSU Central Committee's draft for the 26th party congress set a task for Azerbaijan's oilfield workers: "Increase oil and gas reserves in order to stabilize the output thereof." It will not be easy to do this. It is extremely important here to sharply raise the effectiveness of geological exploration and drilling.

Meanwhile, much is left to be desired with respect to the effectiveness of our prospecting for new oil and gas deposits. For many years Azneft' has been doing deep exploratory drilling for structures that are favorable for natural-fuel accumulations in parts of West Azerbaijan, but there has been no actual production yet. Problems of mastering promising structures in certain regions of the Kura Lowland are being resolved extremely slowly. The Caspian's oilfield workers, although they have had major achievements in increasing reserves of gas and gas condensate and the amounts of recovery thereof, nevertheless have not been coping with the task of increasing oil reserves during the Tenth Five-Year Plan.

It is extremely important right now to help the explorers, from the first days of the new year, to adopt a shock-work pace in hole penetration and to insure high work quality, strict observance of labor and technological discipline and a reduction in worktime losses. For it is impossible to consider as normal the fact that last year 25 accidents, on the elimination of which tens of thousands of hours were spent, occurred at exploratory wells that were being drilled at Kaspmorneftegazprom drilling enterprises alone.

Successful solution of the job of stabilizing oil and gas recovery depends, it stands to reason, not just on the discovery and introduction into development of new fields. Most important for Azerbaijan oilfield workers is the problem of more complete utilization of the reserves of existing fields; this was mentioned at the meeting of the economic activist group of the republic's party which met in December last year.

It was noted in particular at the meeting that secondary and tertiary oil-recovery methods, such as center-to-edge waterflooding and the use of surfactants and thermal methods for increasing productive capacity, are not being introduced sufficiently persistently in the republic. The shaft method of recovery and the development of oilfields by the open process are being disseminated slowly.

Important deficiencies in introducing tertiary methods were found by a surprise inspection brigade of VYSHKA working correspondents, whose information was published recently in the newspaper. It was found that the overall program for raising operating effectiveness in the area of increasing withdrawal that was developed back at the start of 1977 by the Presidium of the Azerbaijan SSR Academy of Sciences, jointly with Azneft' and Kaspmorneftegazprom, had been completely forgotten by many and was being carried out unsatisfactorily. Some NGDU's were experiencing many difficulties in regulating the operating process correctly. Not by far does all the equipment that has been created, particularly for thermal stimulation methods, meet the requirements for the effective conduct of these operations.

Party and trade-union organizations and economic supervisors must take all steps to eliminate more rapidly the deficiencies that exist in introducing progressive methods for intensifying recovery and in giving them the "green light" at the fields.

Azerbaijan's oilfield workers will solve major complicated tasks during the first and succeeding years of the five-year plan. But they still have all the reserves and potential for coping with them honorably and for taking a new, huge step forward in accomplishing scientific and technical progress in the area of oil recovery.

11409
CSO: 1822

CHECK OF PETROLEUM WELL DRILLING BY CONTROL COMMISSION

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Nov 80 p 2

[Article: "Effect of the Check"]

[Text] The USSR People's Control Committee considered at its meeting the question of the organization of drilling work and petroleum production in the "Yuganskneftgaz" Association of the Glavtyumenneftegaz of the Minnefteprom [Ministry of the Petroleum Industry] . A preliminary comprehensive check indicated that with adequate production capacities and realistic plans, tasks have not been fulfilled systematically on producing petroleum and drilling wells here. Previously obtained technical-economic indicators deteriorated and the number of accidents and defective work increased in the building of new wells. An analysis of the situation identified the main causes -- poor organization of work, poor management, weak monitoring of the association's activity by the ministry. Proper demands were not made of the work executors. The considerable lag in drilling and putting wells in operation was made up by existing wells which violated the operating mode of the wells and of the deposit as a whole. A number of management workers of the ministry and association were strictly punished for poor management, poor work organization and weaker monitoring of the enterprise activity.

The Ministry of the Petroleum Industry adopted immediate measures to introduce proper order in the organization of petroleum production and in building wells, as well as in utilizing and storing materials. The Nefteyugansk City People's Control Committee and the "Yuganskneftegaz" Peoples Control Committee activated their work considerably.

At present, the average daily petroleum production increased by 15,000 tons at the association's enterprises. The plan for putting wells in operation was overfulfilled considerably. Repairs improved and the number of idle wells decreased. All this made it possible to fulfill the task for the final year of the five-year plan period ahead of schedule.

2291
CSO: 1822

FUELS

SAMGORSKOYE PETROLEUM DEPOSIT

Moscow PRAVDA in Russian 21 Nov 80 p 2

[Article by B. L'vov (Georgian SSR): "Passed Through Mountains"]

> [Text] Petroleum from one of the newest domestic deposits, the Samgorskoye, arrived at the Batumi Petroleum Refining Plant.

Thus, Samgorskoye petroleum began to flow through the 430-km pipeline over 1000-meter steep slopes of the Meskhetskiy and Suramskiy ridges, dozens of rivers, canyons, RRs and highways. Its construction required daring engineering exploration and true labor heroism. Take, for example, the Suramskiy Pass. Its highest elevation is 949 meters. It was difficult to deliver heavy construction machines to it over the steep slopes and carry out regular work.

The collective of the comparatively recently created Georgian Administration of the Ministry of Construction of Petroleum and Gas Industry Enterprises coped with this difficult problem. Bulldozer operators V. Lomidze and I. Gogoladze worked confidently, laying a road by blasting and skilfully using safety devices to hold the machines on the mountain slopes even at an angle of 45 degrees. Excavators I. Gelashvili and Sh. Taktakishvili worked selflessly. Even on the hardest grounds -- granite and basalt -- they were ahead of schedule every week by 2-3 days. The route demanded great skill from drivers who without fail delivered long pipes, structures and construction materials over serpentine mountain roads.

The Kolkhidskaya lowland offered its surprises. It was found that here in the Caucasian subtropic zone, among large gardens and plantations, there were solid rocks lying near the surface. The metal of the buckets and cutters of the excavating machines failed. The solution was suggested by machine operators of the column headed by V. Andryukhov. They created a number of original fixtures so as not to reduce the given rate of work.

The start-up of the new pipeline will make it possible to free thousands of RR tanks and reduce the freight flow on the intensive section of the Transcaucasion RR -- Tbilisi-Batumi.

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BRIEFS

ARMENIAN AES POWER UNIT--The second power unit of the Armyanskaya AES, of 410-kw capacity, has reached its designed level. One of the main points of the socialist commitments of the republic's workers that were contemplated for the five-year plan was thereby fulfilled ahead of schedule. Mountainous Armenia has become a large supplier of electricity to Transcaucasia. The second power unit will improve the fuel and energy balance of the country's southern regions. [Text] [Moscow KRASNAYA ZVEZDA in Russian 18 Jul 80 p 1] 11409

BASHKIRIA-URALS POWER LINE--Ufa. The 280-km long Magnitogorsk-Bekegovo LEP-500 [500-kv electric-power transmission line] has been put under a load. The state commission evaluated the work of mechanized columns of Volgoelektroset'stroy [Trust for the Construction of Electric-Power Transmission Lines of the Volga Economic Region] and Tselinelektroset'stroy [Trust for the Construction of Electric-Power Transmission Lines in the Virgin Lands] as "good." The high-power electric arterial, after crossing the Ural Mountains, joined the power systems of Bashkiria and the South Urals. [Text] [Moscow IZVESTIYA in Russian 22 Nov 80 p 1] 11409

PECHORA-USINSK POWER LINE--Usinsk (Komi ASSR). The second Pechorskaya GRES-Usinsk LEP [electric-power transmission line] of 220 kv, has been put under an industrial load. The line is 130 km long. The introduction of this power system into operation has enabled the republic's largest oilfields to be connected reliably with the power-engineering heart of the Timan-Pechora regional production complex which is taking shape. [Text] [Moscow KRASNAYA ZVEZDA in Russian 26 Nov 80 p 1] 11409

TURBINE FOR KURPSAYSKAYA GES--Khar'kov. Outstripping the monthly schedule at the Khar'kov Plant imeni Kirov, the last components for the 206,000-kw main turbine have been fabricated. The turbine is intended for the Kurpsayskaya GES, which is being built in Kirghizia. This will help to introduce the first unit of the station into operation ahead of schedule--by the opening of the forum of the country's communists. Innovators' studies helped to speed up fulfillment of the important task. An effective way for manufacturing the turbine blades was introduced there. They started to machine the blades on both sides simultaneously, and not in turn, as was done formerly. Three more units will be fabricated for the Kurpsayskaya GES during the forthcoming five-year plan. [Text] [Moscow KRASNAYA ZVEZDA in Russian 26 Nov 80 p 1] 11409

EKIBASTUZ POWER LINE--Pavlodar. An LEP-1500 [1,500-kv electric-power transmission line] will transfer DC power of the Ekibastuzskaya GRES to the country's central regions. The brigade of A. Shatalov, from the Tselinelektroset'stroy [Trust for the Construction of Electric-Power Transmission Lines in the Virgin Lands] has installed the first supports for this power bridge, close to the site of the thermal power station. The power transmission line will cross a hundred streams to reach Tambov, to which it is planned to transfer annually tens of billions of kw-hr of electricity generated in Kazakhstan. [Text] [Moscow KRASNAYA ZVEZDA in Russian 16 Dec 80 p 1] 11409

COLORS OF ETHYLATED GASOLINE--Vladimirskaya Oblast. An inaccuracy was committed in issue No 7 of KHIMIA I ZHIZN' of this year, in an answer to reader V. Al'tergott about the color of ethylated gasoline. Actually, gasoline had been colored as was stated in the "Letters" column, but since 1 January 1979 a new GOST 2084-77 has been introduced, in accordance with which grade A-76 gasoline is colored yellow, AI-93 orange-red, and AI-98 blue. Moreover, gasolines A-66 and A-72, which are produced in accordance with specifications, are colored, respectively, green and rose. [Text] [Moscow KHIMIYA I ZHIZN' in Russian No 11, 1980 p 67] 11409

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